

Fig. 5. Sequences corresponding to GenBank Accession Nos. shown in Table III (sequences shown in Fig. 5 correspond to SEQ ID NOS:44-52 and SEQ ID NOS:1-43, respectively. Sequences shown in Table III correspond to SEQ ID NOS:37, 34, 11, 4, 52, 51, 50, 49, 43, 42, 41, 40, 38, 36, 35, 33, 44, 32, 31, 20, 16, 15, 14, 13, 12, 10, 19, 9, 8, 7, 6, 5, 18, 3, 2, 1, 17, 30, 22, 21, 46, 45, 21, 29, 28, 48, 27, 47, 26, 25, 24, respectively).

**REMARKS**

Reconsideration of this application and entry of the foregoing amendments are respectfully requested.

The specification has been amended to make proper reference, in the description of Figure 5, to the sequence identifiers corresponding to the sequences shown in Figure 5 and in Table III. The undersigned sincerely regrets the confusion resulting from the error made in the Amendment of December 21, 2000 where, in the description of Fig. 5, reference was improperly made to SEQ ID NOS:10-52 and 1-9. For the Examiner's ease of reference, submitted herewith is a copy of Fig. 5 hand-amended to show the sequence identifiers. The hand-amended version also highlights the name given each sequence, which names are referred to in the claims. The undersigned believes that

from a review of the hand-amended version of Fig. 5, it will be clear that DDRT2 in claim 5 is indeed SEQ ID NO:34.

In response to the Examiner's requirement for restriction, Applicants elect the subject matter of Group III (claims 7, 11 and 15) for prosecution in this application. The election is made with traverse. The Examiner is requested to rejoin Groups I, II, III and IV for the reasons that follow.

As pointed out in the Amendment filed July 19, 2001, DDRT2 (SEQ ID NO:34), DDRT7 (SEQ ID NO:50), DDRT16 (SEQ ID NO:40) and DDRT26 (SEQ ID NO:14) are differentially expressed cDNAs derived from the same gene, F35E811 (see paragraph bridging pages 4 and 5 of July 19, 2001 Amendment). That being the case, no basis for restriction as between Groups I-IV is seen.

Attached hereto is a marked-up version of the changes made to the specification by the current amendment. The attached page is captioned "**Version With Markings To Show Changes Made.**"

This application is submitted to be in condition for allowance and a Notice to that effect is requested.

Respectfully submitted,

**NIXON & VANDERHYE, P.C.**

By Mary J. Wilson  
Mary J. Wilson  
Reg. No. 32,955

MJW:tat

1100 North Glebe Road  
8<sup>th</sup> Floor  
Arlington, Virginia 22201-4714  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The paragraph beginning at page 7, line 2:

Fig. 5. Sequences corresponding to GenBank Accession Nos. shown in Table III [(SEQ ID NOS:10-52 and 1-9, respectively)] sequences shown in Fig. 5 correspond to SEQ ID NOS:44-52 and SEQ ID NOS:1-43, respectively. Sequences shown in Table III correspond to SEQ ID NOS:37, 34, 11, 4, 52, 51, 50, 49, 43, 42, 41, 40, 38, 36, 35, 33, 44, 32, 31, 20, 16, 15, 14, 13, 12, 10, 19, 9, 8, 7, 6, 5, 18, 3, 2, 1, 17, 30, 22, 21, 46, 45, 21, 29, 28, 48, 27, 47, 26, 25, 24, respectively).

# Figure 5

1  
LOCUS AF072438 284 bp mRNA EST 06-JUL-1998  
DEFINITION AF072438 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone DDRT21, mRNA sequence.  
ACCESSION AF072438  
NID g3288944  
KEYWORDS EST.  
SOURCE *Caenorhabditis elegans*.  
ORGANISM *Caenorhabditis elegans*  
Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.  
REFERENCE 1 (bases 1 to 284)  
AUTHORS Freedman, J.H. and Liao, H.-C.  
TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
differential display  
JOURNAL Unpublished (1998)  
COMMENT  
Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES Location/Qualifiers  
source 1..284  
/organism="Caenorhabditis elegans"  
/strain="N2"  
/db\_xref="taxon:6239"  
/clone="DDRT21"  
/clone\_lib="mRNA from cadmium-responsive gene"  
/tissue\_type="whole animal"  
/dev\_stage="mixed population"

BASE COUNT 88 a 61 c 54 g 81 t

## ORIGIN

1 tggtagctcca cacggacaaa tacatttagt ttacaagcc gccacgcgac acgcaacggc  
61 cgtaaatcta cccaaggtac aacaactaca tgcaagcac agacccatat cttattgtg  
121 cggaaggatg gcctctactg tagtaatcga caattggact cttatccacc ggatcaccta  
181 acctatttg atattaatat gcctgattgg ggatcacagg gttgcccgaa aaatgtaatt  
241 atgaactgaa ttgaaatgt attataaat tagtttat tggg

//

SEQ ID NO: 44

2  
LOCUS AF072437 214 bp mRNA EST 06-JUL-1998  
DEFINITION AF072437 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone VL8, mRNA sequence.  
ACCESSION AF072437  
NID g3288943  
KEYWORDS EST.  
SOURCE *Caenorhabditis elegans*.  
ORGANISM *Caenorhabditis elegans*  
Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.  
REFERENCE 1 (bases 1 to 214)  
AUTHORS Freedman, J.H. and Liao, H.-C.  
TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by

differential display  
 JOURNAL Unpublished (1998)  
 COMMENT  
 Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES      Location/Qualifiers  
 source      1..214  
               /organism="Caenorhabditis elegans"  
               /strain="N2"  
               /db\_xref="taxon:6239"  
               /clone="VL8"  
               /clone\_lib="mRNA from cadmium-responsive gene"  
               /tissue\_type="whole animal"  
               /dev\_stage="mixed population"

BASE COUNT    68 a   37 c   66 g   43 t

ORIGIN

1 gcaagtgcgg agacaaatgt gaatgcagtg gagacaagtg ttgtgagaag tactgctgrg  
 61 aggaggccag tgagaaaaaa tctgtccag ctggatgtaa gggagactgc aagtgtgcaa  
 121 actgtcattg tgcagagcag aagcagtgcg agacaagacc catcaacacc aggggaactgc  
 181 tgcggctcat taaaatggt cagagttgaa tcta

//

SEQ ID NO: 45

3 LOCUS AF072436 217 bp mRNA EST 06-JUL-1998  
 DEFINITION AF072436 mRNA from cadmium-responsive gene Caenorhabditis elegans  
 cDNA clone VL7, mRNA sequence.

ACCESSION AF072436

NID g3288942

KEYWORDS EST.

SOURCE Caenorhabditis elegans.

ORGANISM Caenorhabditis elegans

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;

Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.

REFERENCE 1 (bases 1 to 217)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode Caenorhabditis elegans.

Identification and cloning of new cadmium-responsive genes by  
 differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES      Location/Qualifiers  
 source      1..217  
               /organism="Caenorhabditis elegans"  
               /strain="N2"  
               /db\_xref="taxon:6239"  
               /clone="VL7"  
               /clone\_lib="mRNA from cadmium-responsive gene"

/tissue\_type="whole animal"  
 /dev\_stage="mixed population"  
 BASE COUNT 69 a 37 c 66 g 45 t  
 ORIGIN

1 ttagcaagtg cggagacaaa tgtgaatgca gtggagacaa gtgtgtgag aagtactgct  
 61 gtgaggaggc cagtgagaaa aaatgctgtc cagctggatg taaggagagac tgaagtgtg  
 121 caaactgtca ttgtgcagag cagaagcagt gcgagacaag acccatcaac accagggaac  
 181 tgctgcggct cattaaaatg ttcagagtt gaatcta

//

SEQ ID NO: 46

4 LOCUS AF072435 217 bp mRNA EST 06-JUL-1998  
 DEFINITION AF072435 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone VL15, mRNA sequence.  
 ACCESSION AF072435  
 NID g3288941  
 KEYWORDS EST.  
 SOURCE *Caenorhabditis elegans*.  
 ORGANISM *Caenorhabditis elegans*  
 Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
 Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.  
 REFERENCE 1 (bases 1 to 217)  
 AUTHORS Freedman, J.H. and Liao, H.-C.  
 TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
 Identification and cloning of new cadmium-responsive genes by  
 differential display  
 JOURNAL Unpublished (1998)  
 COMMENT

Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES Location/Qualifiers  
 source 1..217  
 /organism="Caenorhabditis elegans"  
 /strain="N2"  
 /db\_xref="taxon:6239"  
 /clone="VL15"  
 /clone\_lib="mRNA from cadmium-responsive gene"  
 /tissue\_type="whole animal"  
 /dev\_stage="mixed population"

BASE COUNT 69 a 37 c 66 g 45 t  
 ORIGIN

1 ttagcaagtg cggagacaaa tgtgaatgca gtggagacaa gtgtgtgag aagtactgct  
 61 gtgaggaggc cagtgagaaa aaatgctgtc cagctggatg taaggagagac tgaagtgtg  
 121 caaactgtca ttgtgcagag cagaagcagt gcgagacaag acccatcaac accagggaac  
 181 tgctgcggct cattaaaatg ttcagagtt gaatcta

//

SEQ ID NO: 47

5 LOCUS AF072434 216 bp mRNA EST 06-JUL-1998  
 DEFINITION AF072434 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone VL12, mRNA sequence.  
 ACCESSION AF072434  
 NID g3288940

KEYWORDS EST.

SOURCE Caenorhabditis elegans.

ORGANISM Caenorhabditis elegans

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;

Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.

REFERENCE 1 (bases 1 to 216)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode Caenorhabditis elegans.

Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman

Nicholas School of the Environment

Duke University

Box 90328, Durham, NC 27708-0328, USA

Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..216

/organism="Caenorhabditis elegans"

/strain="N2"

/db\_xref="taxon:6239"

/clone="VL12"

/clone\_lib="mRNA from cadmium-responsive gene"

/tissue\_type="whole animal"

/dev\_stage="mixed population"

BASE COUNT 69 a 37 c 66 g 44 t

ORIGIN

1 tagcaagtgc ggagacaaat gtgaatgcag tggagacaag tttgtgaga agtactgctg  
61 tgaggaggcc agtgagaaaa aatgctgtcc agctggatgt aaggagagact gcaagtgtgc  
121 aaactgtcat tgtgcagagc agaagcagtg cgagacaaga cccatcaaca ccagggaact  
181 gctgcggctc attaaaatgt ttacagattg aatcta

//

SEQ ID NO: 48

6. LOCUS AF071399 240 bp mRNA EST 01-JUL-1998  
DEFINITION AF071399 mRNA from cadmium-responsive gene Caenorhabditis elegans  
cDNA clone DDRT9A, mRNA sequence.

ACCESSION AF071399

NID g3265144

KEYWORDS EST.

SOURCE Caenorhabditis elegans.

ORGANISM Caenorhabditis elegans

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;

Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.

REFERENCE 1 (bases 1 to 240)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode Caenorhabditis elegans.

Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman

Nicholas School of the Environment

Duke University



Box 90328, Durham, NC 27708-0328, USA

Email: jonf@duke.edu.

FEATURES                      Location/Qualifiers  
 source                      1..240  
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                               /db\_xref="taxon:6239"  
                               /clone="DDRT9A"  
                               /clone\_lib="mRNA from cadmium-responsive gene"  
                               /tissue\_type="whole animal"  
                               /dev\_stage="mixed population"

BASE COUNT    81 a   28 c   41 g   90 t

ORIGIN

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1 mtttttt ttgagactat gaatttttaa tttagcaagc gaatttttg ttattagata
61 ggaagcctag aagagtgaaa atttaaaaa atgtgaggaa ctggtttgt attcagaagc
121 atataaacgt tgccttaatt tatataagac gttctctatg aatatagcca aaatgatcga
181 tattttaat ccaaaaatca aacattttg gtatacgaac ctgccttca cggagggtta
//
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SEQ ID NO: 49

7 LOCUS AF071398 217 bp mRNA EST 01-JUL-1998  
 DEFINITION AF071398 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone DDRT7, mRNA sequence.

ACCESSION AF071398

NID g3265143

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secementea; Rhabditia; Rhabditida;  
 Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 217)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
 Identification and cloning of new cadmium-responsive genes by  
 differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES                      Location/Qualifiers

source                      1..217  
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                               /clone="DDRT7"  
                               /clone\_lib="mRNA from cadmium-responsive gene"  
                               /tissue\_type="whole animal"  
                               /dev\_stage="mixed population"

BASE COUNT    64 a   38 c   42 g   73 t

ORIGIN

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1 mtttttt ttggaggg aaatcacggc ggcggatcga acagtctct ctcaattggc
61 aactgtctat atcatccgc aatcacatt cggatgttct cgaaaaggca ttccaaagt
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SEQ ID NO: 50

121 atggagtc tgtgaaagag ttctcatga agttaccca aaggcattc atagtgaat  
181 aaattgtcaa actagtagtc agatcaataa aattttc

//

8 LOCUS AF071397 219 bp mRNA EST 01-JUL-1998  
DEFINITION AF071397 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone DDRT6, mRNA sequence.

ACCESSION AF071397

NID g3265142

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;

Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 219)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman

Nicholas School of the Environment

Duke University

Box 90328, Durham, NC 27708-0328, USA

Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..219

/organism="Caenorhabditis elegans"

/strain="N2"

/db\_xref="taxon:6239"

/clone="DDRT6"

/clone\_lib="mRNA from cadmium-responsive gene"

/tissue\_type="whole animal"

/dev\_stage="mixed population"

BASE COUNT 75 a 38 c 34 g 72 t

ORIGIN

1 ttttttt ttgacgaca aattattag aaatattgca taagcgaata tacaattga  
61 cccgtagcaa aaaaatacat gtcgggaaaa tgagaaaaat ggtaataaa ttttaaaaa  
121 aagtatataa ttctccaac aagctactgc atgtccttgc actacaatct tctccgacgg  
181 attcactct cgatcgcgga ttccgattct tcatgttgg

//

SEQ ID NO: 51

9 LOCUS AF071396 254 bp mRNA EST 01-JUL-1998  
DEFINITION AF071396 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone DDRT5, mRNA sequence.

ACCESSION AF071396

NID g3265141

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;

Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 254)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
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JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..254  
/organism="Caenorhabditis elegans"  
/strain="N2"  
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/clone="DDRT5"  
/clone\_lib="mRNA from cadmium-responsive gene"  
/tissue\_type="whole animal"  
/dev\_stage="mixed population"

BASE COUNT 79 a 43 c 50 g 82 t

ORIGIN

1 tttttttt ttttccca tcggaaaata gcaagcctct ccacaggtac agtaattgag  
61 cattggatg atgcttcttc acagcattat ccagtgtata ctatcctt ttcgtaagag  
121 ttgcgaaaa atgtccataa aaagtgtga atgactttg ttcatctga agcatacata  
181 cgatcgaaac ggagaaatcg atagatcgaa tcaggataag tggggatact gtattgtcgg  
241 atgaaaacat agac

//

SEQ ID NO: 52

LOCUS AF071394 165 bp mRNA EST 01-JUL-1998

DEFINITION AF071394 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone DDRT47, mRNA sequence.

ACCESSION AF071394

NID g3265139

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 165)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
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JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..165  
/organism="Caenorhabditis elegans"

10

/strain="N2"  
 /db\_xref="taxon:6239"  
 /clone="DDRT47"  
 /clone\_lib="mRNA from cadmium-responsive gene"  
 /tissue\_type="whole animal"  
 /dev\_stage="mixed population"

BASE COUNT 38 a 37 c 20 g 70 t

ORIGIN

1 tttttttt ttccaacc ccttcacata ataggcggaa aaccgattgt tgcgttact  
 61 tgtgtgtgtg ttattccct gacctatcca tttcccttc ttccaatct ctaaagatar  
 121 acctgaaaac gagtgttg aatactgat acattgtct tcatac

//

SEQ ID NO: 1

LOCUS AF071393 154 bp mRNA EST 01-JUL-1998  
 DEFINITION AF071393 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone DDRT41, mRNA sequence.

ACCESSION AF071393

NID g3265138

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
 Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 154)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
 Identification and cloning of new cadmium-responsive genes by  
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JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..154  
 /organism="Caenorhabditis elegans"  
 /strain="N2"  
 /db\_xref="taxon:6239"  
 /clone="DDRT41"  
 /clone\_lib="mRNA from cadmium-responsive gene"  
 /tissue\_type="whole animal"  
 /dev\_stage="mixed population"

BASE COUNT 49 a 27 c 40 g 38 t

ORIGIN

1 tggattgtgc ggggtgtact gccaaagtctg gtcgtgatag aaaacatcag gcgatcatgc  
 61 cttacgtgg taagatcctg aacgtcgaaa agcaatggaa cataagatct acgaaaaatga  
 121 ggagatcaaa aacatgttta cagctttgtt ccta

//

SEQ ID NO: 2

LOCUS AF071392 264 bp mRNA EST 01-JUL-1998  
 DEFINITION AF071392 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone DDRT40, mRNA sequence.

ACCESSION AF071392

NID g3265137

KEYWORDS EST.

SOURCE Caenorhabditis elegans.

ORGANISM Caenorhabditis elegans

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.

REFERENCE 1 (bases 1 to 264)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode Caenorhabditis elegans.  
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JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
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Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..264  
/organism="Caenorhabditis elegans"  
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/clone="DDRT40"  
/clone\_lib="mRNA from cadmium-responsive gene"  
/tissue\_type="whole animal"  
/dev\_stage="mixed population"

BASE COUNT 90 a 47 c 59 g 68 t

ORIGIN

1 tggattgtgc ggagtataag caaaaatttc tggaaaagtc gggatgatg aagtttgata  
61 agatcttcaa tcaaaagctc gggtttctgt tgttaaaaga ttccgcagga aaatgtctcc  
121 gagagtcctg gtctcctaac taaattctac gaggcgatca aagaatacga gaaaatggag  
181 acaccagatg agcgattaac aaaagcacga gaaattatc gatcatcata tacggttgaa  
241 ttccgtcgcg caatcgtcac actc

//

SEQ ID NO:3

13

LOCUS AF071391 187 bp mRNA EST 01-JUL-1998

DEFINITION AF071391 mRNA from cadmium-responsive gene Caenorhabditis elegans  
cDNA clone DDRT4, mRNA sequence.

ACCESSION AF071391

NID g3265136

KEYWORDS EST.

SOURCE Caenorhabditis elegans.

ORGANISM Caenorhabditis elegans

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.

REFERENCE 1 (bases 1 to 187)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode Caenorhabditis elegans.  
Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES                      Location/Qualifiers  
 source                      1..187  
                               /organism="Caenorhabditis elegans"  
                               /strain="N2"  
                               /db\_xref="taxon:6239"  
                               /clone="DDRT4"  
                               /clone\_lib="mRNA from cadmium-responsive gene"  
                               /tissue\_type="whole animal"  
                               /dev\_stage="mixed population"

BASE COUNT    57 a   22 c   41 g   67 t

ORIGIN

1 aaattttat taaaataaaa taaacatgtt ttgttgata ttatagcgtt aaagctgaaa  
 61 tgacaatgat tagaaaacca gcagagaata gagatgatgt tccttcggtt gttgtttcca  
 121 gtgaacactt gtgcggtgg agcccgat tagcgagtg tagttttga tgtgattggt  
 181 tccaatc

SEQ ID NO: 4

LOCUS    AF071389   267 bp   mRNA        EST    01-JUL-1998  
 DEFINITION AF071389 mRNA from cadmium-responsive gene Caenorhabditis elegans  
                               cDNA clone DDRT37, mRNA sequence.

ACCESSION AF071389

NID        g3265134

KEYWORDS EST.

SOURCE    Caenorhabditis elegans.

ORGANISM Caenorhabditis elegans

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
 Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.

REFERENCE 1 (bases 1 to 267)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE    Cadmium-Regulated Genes from the Nematode Caenorhabditis elegans.  
                               Identification and cloning of new cadmium-responsive genes by  
                               differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES                      Location/Qualifiers  
 source                      1..267  
                               /organism="Caenorhabditis elegans"  
                               /strain="N2"  
                               /db\_xref="taxon:6239"  
                               /clone="DDRT37"  
                               /clone\_lib="mRNA from cadmium-responsive gene"  
                               /tissue\_type="whole animal"  
                               /dev\_stage="mixed population"

BASE COUNT    66 a   75 c   54 g   72 t

14

ORIGIN

1 tggtagctcca cctacaagtt ctacaagttc tacgaggttg tctgatcga tccattccac  
61 aaggtatccc gtcgtaaccc agacacccaa tggatcacca agcctagttc acaagcaccg  
121 tgagcaaaga ggactcacct ctgctggacg caagttcgtg gactcggaaa gggattgctt  
181 ttctctgcta cccgeggagg atcccaacac caaagttttt ccacccgcca accgataaat  
241 cttgtattt tatttggtt tgggttt

//

SEQ ID NO: 5

15.

LOCUS AF071388 292 bp mRNA EST 01-JUL-1998  
DEFINITION AF071388 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone DDRT36, mRNA sequence.

ACCESSION AF071388

NID g3265133

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;

Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 292)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.

Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman

Nicholas School of the Environment

Duke University

Box 90328, Durham, NC 27708-0328, USA

Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..292

/organism="Caenorhabditis elegans"

/strain="N2"

/db\_xref="taxon:6239"

/clone="DDRT36"

/clone\_lib="mRNA from cadmium-responsive gene"

/tissue\_type="whole animal"

/dev\_stage="mixed population"

BASE COUNT 73 a 57 c 51 g 111 t

ORIGIN

1 tttttttt ttcccaac cccctcacat aaaggcggaa aaccgattgt tgcgttact  
61 tggtagctgc gttattccc tgaggtatcc atattccgct tctcccaatc tctaaagata  
121 taccgaaaa cgagttgtcg tcgaaatact tgatacatgt tgccttcacg ctggtgtatg  
181 tggttcgca aattcttcac actagttatg ataggatttg aatgagctgg cagagtgcaa  
241 cttgaactc gaatttcaat atttcgtga tctgcatta agtgatgaat aa

//

SEQ ID NO: 6

16.

LOCUS AF071387 314 bp mRNA EST 01-JUL-1998  
DEFINITION AF071387 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone DDRT35, mRNA sequence.

ACCESSION AF071387

NID g3265132

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.  
ORGANISM *Caenorhabditis elegans*  
Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.  
REFERENCE 1 (bases 1 to 314)  
AUTHORS Freedman, J.H. and Liao, H.-C.  
TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
differential display  
JOURNAL Unpublished (1998)  
COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES Location/Qualifiers  
source 1..314  
/organism="Caenorhabditis elegans"  
/strain="N2"  
/db\_xref="taxon:6239"  
/clone="DDRT35"  
/clone\_lib="mRNA from cadmium-responsive gene"  
/tissue\_type="whole animal"  
/dev\_stage="mixed population"

BASE COUNT 86 a 65 c 56 g 107 t

ORIGIN

1 tctgagctag gaggtccagg aggaacaac ggaggaggtg ctggaaatgg tggattcgac  
61 gatttgatg attggctcg ccgttcgaa gaactgaaaa agattaagta atcatcacc  
121 gacgttccat tcttataa ctattgtt ctcttcacc caattttt ttacgtgtc  
181 ttttttga tcataaatga gacccccaaa aactagctgt tcttagtgc atacgttaa  
241 accccttag tcattgatta tcattgtata cctcatttc cgaaaaacct ttgacattc  
301 atcaactagg ttt

//

SEQ ID NO: 7

17. LOCUS AF071386 189 bp mRNA EST 01-JUL-1998  
DEFINITION AF071386 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone DDRT34, mRNA sequence.  
ACCESSION AF071386  
NID g3265131  
KEYWORDS EST.  
SOURCE *Caenorhabditis elegans*.  
ORGANISM *Caenorhabditis elegans*  
Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.  
REFERENCE 1 (bases 1 to 189)  
AUTHORS Freedman, J.H. and Liao, H.-C.  
TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
differential display  
JOURNAL Unpublished (1998)  
COMMENT  
Contact: Jonathan H. Freedman  
Nicholas School of the Environment



Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES                      Location/Qualifiers  
source                      1..189  
                              /organism="Caenorhabditis elegans"  
                              /strain="N2"  
                              /db\_xref="taxon:6239"  
                              /clone="DDRT34"  
                              /clone\_lib="mRNA from cadmium-responsive gene"  
                              /tissue\_type="whole animal"  
                              /dev\_stage="mixed population"

BASE COUNT    61 a   26 c   48 g   54 t

ORIGIN

1 tctgagctag ggaccgaaat tcacaaatar ccaattgta ctggatggtg gggatgtgga  
61 cgattaatg gggacaagcc actgaagtgt atgtatttc atcgttaaa tatgaagatg  
121 gaggagatg aatggggatt ttgcttctt tgcaaaatgg cctccctatg tacctgaaaa  
181 aaaaaaaaa

//

SEQ ID NO: 8

LOCUS AF071385 171 bp mRNA EST 01-JUL-1998  
DEFINITION AF071385 mRNA from cadmium-responsive gene Caenorhabditis elegans  
cDNA clone DDRT33D, mRNA sequence.

ACCESSION AF071385

NID g3265130

KEYWORDS EST.

SOURCE Caenorhabditis elegans.

ORGANISM Caenorhabditis elegans

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.

REFERENCE 1 (bases 1 to 171)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode Caenorhabditis elegans.  
Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES                      Location/Qualifiers  
source                      1..171

/organism="Caenorhabditis elegans"  
/strain="N2"  
/db\_xref="taxon:6239"  
/clone="DDRT33D"  
/clone\_lib="mRNA from cadmium-responsive gene"  
/tissue\_type="whole animal"  
/dev\_stage="mixed population"

BASE COUNT    57 a   44 c   37 g   33 t

ORIGIN

1 tctgagctag gaaaggacgg agaagatgga gagaacggag ctgctggagc cgctggacca

SEQ ID NO: 9

61 aagggatctt ggcaccactg cccaccacca cgcactcccc aggarattaa ttacttctc  
121 tctaatttta gtgaatctca ttctaataaa aagccgcccc aaaaaaaaaa a

//

19 LOCUS AF071383 289 bp mRNA EST 01-JUL-1998  
DEFINITION AF071383 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone DDRT30, mRNA sequence.

ACCESSION AF071383

NID g3265128

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 289)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman

Nicholas School of the Environment

Duke University

Box 90328, Durham, NC 27708-0328, USA

Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..289

/organism="Caenorhabditis elegans"

/strain="N2"

/db\_xref="taxon:6239"

/clone="DDRT30"

/clone\_lib="mRNA from cadmium-responsive gene"

/tissue\_type="whole animal"

/dev\_stage="mixed population"

BASE COUNT 68 a 64 c 63 g 94 t

ORIGIN

1 tttttttt ttgagcgag cgtttattat ttgagtcgag cttgggtga gtcgtcagct  
61 gaacatgaag atgacaaag aagacgatca gcagcaacag atgcgcagag tgcattctt  
121 tgcgggtgct gtctcaactg cagccgtcat ttcaagcatt gtgactctcc caatgatcta  
181 ctcttactct tcaatcttc caatccatt tgatcattgg aaaccgagtt ctgtaaaact  
241 gtgctcgtga tatgtggtgt cgaagttctc cacaagtcag gtgtaccct

//

SEQ ID NO:10

20 LOCUS AF071382 162 bp mRNA EST 01-JUL-1998  
DEFINITION AF071382 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone DDRT3, mRNA sequence.

ACCESSION AF071382

NID g3265127

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 162)

AUTHORS Freedman,J.H. and Liao,H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.

Identification and cloning of new cadmium-responsive genes by differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..162  
/organism="Caenorhabditis elegans"  
/strain="N2"  
/db\_xref="taxon:6239"  
/clone="DDRT3"  
/clone\_lib="mRNA from cadmium-responsive gene"  
/tissue\_type="whole animal"  
/dev\_stage="mixed population"

BASE COUNT 64 a 31 c 18 g 49 t

ORIGIN

1 ctccaccgca acaagtgttc acgtggaaac aacaacgaaa ggaacatcat ctctatctct  
61 gctgggttc taatcangt cattcagct ttaacgctat aatcaacaaa aacagtttat  
121 ttattttaa taaaaattta ttctgtcaca aaaaaaaaaa aa

SEQ ID NO: 11

LOCUS AF071381 140 bp mRNA EST 01-JUL-1998

DEFINITION AF071381 mRNA from cadmium-responsive gene *Caenorhabditis elegans*

cDNA clone DDRT29, mRNA sequence.

ACCESSION AF071381

NID g3265126

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 140)

AUTHORS Freedman,J.H. and Liao,H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.

Identification and cloning of new cadmium-responsive genes by differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..140  
/organism="Caenorhabditis elegans"  
/strain="N2"

21.

/db\_xref="taxon:6239"  
 /clone="DDRT29"  
 /clone\_lib="mRNA from cadmium-responsive gene"  
 /tissue\_type="whole animal"  
 /dev\_stage="mixed population"

BASE COUNT 52 a 25 c 29 g 34 t

ORIGIN

1 tagggcctgg ttgtgacaat gtgcactaaa atggggcatg aatatcacca gcagagtca  
 61 cttacccaaa gtgtacttat taagagtcaa ctgtgaagta tatgagacat ttcagttgcc  
 121 tgcccaaaaa aaaaaaaaaa

//

SEQ ID NO: 12

22. LOCUS AF071380 308 bp mRNA EST 01-JUL-1998  
 DEFINITION AF071380 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone DDRT28, mRNA sequence.

ACCESSION AF071380

NID g3265125

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;

Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 308)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.

Identification and cloning of new cadmium-responsive genes by  
 differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman

Nicholas School of the Environment

Duke University

Box 90328, Durham, NC 27708-0328, USA

Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..308

/organism="Caenorhabditis elegans"

/strain="N2"

/db\_xref="taxon:6239"

/clone="DDRT28"

/clone\_lib="mRNA from cadmium-responsive gene"

/tissue\_type="whole animal"

/dev\_stage="mixed population"

BASE COUNT 88 a 70 c 73 g 77 t

ORIGIN

1 tagttaggca caggatgtac gaggaaatc tactatttc ggggtcacc acgaaatcac  
 61 aataaccggg atttttagt ggtccccgca cgtgaccta ctggcgcgtc aggcactcgg  
 121 ccgcgacatt cgccgacacg cctacaatcc acgtgtcaat cgtcagattt gcggatcaat  
 181 aatggtgatg aaaggtggaa atacgtatat ggaatcatgt caaaggcatc aagctgaaca  
 241 attcgaagag ttgaatcggc gtcgacactt ttgatccaag accgtaagaa attgaagaac  
 301 tattgggtg

//

SEQ ID NO: 13

23. LOCUS AF071379 238 bp mRNA EST 01-JUL-1998

17

DEFINITION AF071379 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone DDRT26, mRNA sequence.

ACCESSION AF071379

NID g3265124

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;

Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 238)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.

Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman

Nicholas School of the Environment

Duke University

Box 90328, Durham, NC 27708-0328, USA

Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..238

/organism="Caenorhabditis elegans"

/strain="N2"

/db\_xref="taxon:6239"

/clone="DDRT26"

/clone\_lib="mRNA from cadmium-responsive gene"

/tissue\_type="whole animal"

/dev\_stage="mixed population"

BASE COUNT 74 a 43 c 44 g 77 t

ORIGIN

1 tttttttt ttgtgggag gaaatcacgg ctccgatgc aacagtcttc tctcaattgg  
61 caactgtctc ttatccattc cgcaatcaca ttccgatgt tctcgaaaag gacttcccaa  
121 agttattgga gtactgtgaa agagttcgtc atgaagtta cccaaaggac ttactatgt  
181 gaattaaat gtcaaaactag tagtcagatc aataaaaatt tccgcgcgaa aaaaaaaa

//

SEQ ID NO: 14

24. LOCUS AF071378 324 bp mRNA EST 01-JUL-1998

DEFINITION AF071378 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone DDRT25A, mRNA sequence.

ACCESSION AF071378

NID g3265123

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;

Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 324)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.

Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES                      Location/Qualifiers

source            1..324  
                  /organism="Caenorhabditis elegans"  
                  /strain="N2"  
                  /db\_xref="taxon:6239"  
                  /clone="DDRT25A"  
                  /clone\_lib="mRNA from cadmium-responsive gene"  
                  /tissue\_type="whole animal"  
                  /dev\_stage="mixed population"

BASE COUNT    102 a   70 c   73 g   79 t

ORIGIN

1 tagttaggca caggatgtac gaggaaatc tactatttc gggctccacc acgaaatcac  
61 aataacccgg atttttagt ggtcccccga cgttgacctt cttggcgctg caggcactcc  
121 gccgcgacat tcgccgacac gcctacaatc cacgtgtcaa tcgtcagatt tgcggatcaa  
181 taatgggtgat gaaagggtgga aatacgtata tggatcatgt tcaaaggcat caagctgaac  
241 aattcgaaga gtggaatcgg cgtcgacaac ttttgatcc aagaccgtaa gaaattgaa  
301 agctattggt gaaaaaaaaa aaaa

//

SEQ ID NO: 15

25. LOCUS    AF071377    272 bp   mRNA            EST    01-JUL-1998  
DEFINITION AF071377 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
             cDNA clone DDRT24, mRNA sequence.  
ACCESSION   AF071377  
NID           g3265122  
KEYWORDS    EST.  
SOURCE      *Caenorhabditis elegans*.  
ORGANISM    *Caenorhabditis elegans*  
             Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
             Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.  
REFERENCE   1 (bases 1 to 272)  
AUTHORS    Freedman, J.H. and Liao, H.-C.  
TITLE      Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
             Identification and cloning of new cadmium-responsive genes by  
             differential display  
JOURNAL    Unpublished (1998)  
COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES                      Location/Qualifiers

source            1..272  
                  /organism="Caenorhabditis elegans"  
                  /strain="N2"  
                  /db\_xref="taxon:6239"  
                  /clone="DDRT24"  
                  /clone\_lib="mRNA from cadmium-responsive gene"

/tissue\_type="whole animal"  
/dev\_stage="mixed population"

BASE COUNT 91 a 74 c 51 g 56 t  
ORIGIN

1 tggctactcca cgcagaaaga agaaggtcat ccacaacacc gctactaccg atgacaagaa  
61 gcttcaaagc aattgaaga aactctctgt caccaacatt ccaggaatcg aggaggtcaa  
121 catgattaag acgatggaac cggtatccac tcaacaacc caaaagtcta aactctgtt  
181 cccagccaat accttctctg tcacaggatc agccgataac aagtcagatc actgaaatgt  
241 ctcccaggga atgctgaact ggctcagagtc ct

SEQ ID NO: 16

LOCUS AF071395 218 bp rRNA INV 30-JUN-1998  
DEFINITION Caenorhabditis elegans strain N2 clone DDRT48, rRNA sequence.  
ACCESSION AF071395  
NID g3265140  
KEYWORDS

SOURCE Caenorhabditis elegans.  
ORGANISM Caenorhabditis elegans  
Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.

REFERENCE 1 (bases 1 to 218)  
AUTHORS Freedman,J.H. and Liao,H.-C.  
TITLE Cadmium-Regulated Genes from the Nematode Caenorhabditis elegans.  
Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished  
REFERENCE 2 (bases 1 to 218)  
AUTHORS Freedman,J.H. and Liao,H.-C.  
TITLE Direct Submission  
JOURNAL Submitted (09-JUN-1998) Nicholas School of the Environment, Duke  
University, Box 90328, Durham, NC 27708-0328, USA

FEATURES Location/Qualifiers  
source 1..218  
/organism="Caenorhabditis elegans"  
/strain="N2"  
/db\_xref="taxon:6239"  
/tissue\_type="whole animal"  
/dev\_stage="mixed population"  
/note="from cadmium-responsive gene"  
/clone="DDRT48"

misc\_RNA 1..218  
/note="similar to Caenorhabditis elegans rDNA tandem  
repeats"

BASE COUNT 58 a 58 c 38 g 64 t  
ORIGIN

1 tttttttt mtgcacaag cggggactaa aagcaagctt ttcatccacc gatgatacaa  
61 ggcggttta gtaccttagg atcgactgac ccacatccaa ctactgttcc acgtggaacc  
121 cttctccact tcagtcttca aggatcgaac ttgaatatgt gctactacca tacgatctgc  
181 actgacggaa agtccagccg agcctacctc atagttaa

SEQ ID NO: 17

LOCUS AF071390 238 bp rRNA INV 30-JUN-1998  
DEFINITION Caenorhabditis elegans strain N2 clone DDRT38, rRNA sequence.  
ACCESSION AF071390

26

27

NID g3265135

KEYWORDS

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 238)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 238)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Direct Submission

JOURNAL Submitted (09-JUN-1998) Nicholas School of the Environment, Duke  
University, Box 90328, Durham, NC 27708-0328, USA

FEATURES Location/Qualifiers

source 1..238

/organism="Caenorhabditis elegans"

/strain="N2"

/db\_xref="taxon:6239"

/tissue\_type="whole animal"

/dev\_stage="mixed population"

/note="from cadmium-responsive gene"

/clone="DDRT38"

misc\_RNA 1..238

/note="similar to *Caenorhabditis elegans* rDNA tandem  
repeats"

BASE COUNT 58 a 50 c 58 g 72 t

ORIGIN

1 tttttttt ttgcccggg cgggtgttac aaccggcagg gacgtaatca acgtgagctg  
61 atgactcgcg ctactaggc attcctcgtt taagggaat aattacaata ccctatcccg  
121 gacatggaag aattcaacg gttaccgat acctttcaac acgggaaaac tacccgggtg  
181 gacaccarta ggactgacag attgaaagtc ttgtcgatt tgggtgttg ttgtgcat

//

SEQ ID NO: 18

LOCUS AF071384 253 bp rRNA INV 30-JUN-1998

DEFINITION *Caenorhabditis elegans* strain N2 clone DDRT32, rRNA sequence.

ACCESSION AF071384

NID g3265129

KEYWORDS

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 253)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 253)

AUTHORS Freedman, J.H. and Liao, H.-C.

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TITLE Direct Submission  
 JOURNAL Submitted (09-JUN-1998) Nicholas School of the Environment, Duke  
 University, Box 90328, Durham, NC 27708-0328, USA

FEATURES Location/Qualifiers

source 1..253  
 /organism="Caenorhabditis elegans"  
 /strain="N2"  
 /db\_xref="taxon:6239"  
 /tissue\_type="whole animal"  
 /dev\_stage="mixed population"  
 /note="from cadmium-responsive gene"  
 /clone="DDRT32"  
 misc\_RNA 1..253  
 /note="similar to Caenorhabditis elegans rDNA tandem  
 repeats"

BASE COUNT 45 a 60 c 69 g 79 t

ORIGIN

1 tagggcctgt tgggtgatgc ttgtccggcg cagttctgtc tgcctgatac ttggggtga  
 61 tggcggacta gtgattgtgc ttctgcgga cgtttctgg tgtgtgcttg gacctcggt  
 121 ctagtatcct gatcgctcat ctatcaaccg tactgttaacc ggtacgactc agggatccg  
 181 actgtctaag taaaacagag gtgacagatg gtccctgcgg acgttaactg tcactgatt  
 241 ctccccagtg cac

//

SEQ ID NO: 19

29

LOCUS AF071376 277 bp rRNA INV 30-JUN-1998  
 DEFINITION Caenorhabditis elegans strain N2 clone DDRT23, rRNA sequence.

ACCESSION AF071376

NID g3265121

KEYWORDS

SOURCE Caenorhabditis elegans.

ORGANISM Caenorhabditis elegans

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
 Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.

REFERENCE 1 (bases 1 to 277)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode Caenorhabditis elegans.  
 Identification and cloning of new cadmium-responsive genes by  
 differential display

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 277)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Direct Submission

JOURNAL Submitted (09-JUN-1998) Nicholas School of the Environment, Duke  
 University, Box 90328, Durham, NC 27708-0328, USA

FEATURES Location/Qualifiers

source 1..277  
 /organism="Caenorhabditis elegans"  
 /strain="N2"  
 /db\_xref="taxon:6239"  
 /tissue\_type="whole animal"  
 /dev\_stage="mixed population"  
 /note="from cadmium-responsive gene"  
 /clone="DDRT23"

misc\_RNA 1..277

/note="similar to Caenorhabditis elegans rDNA tandem repeats"

BASE COUNT 67 a 59 c 73 g 78 t  
ORIGIN

1 ttttttt ttggggggg gcgggtgtga caaagggcag ggacgtaac aacgtgagct  
61 gatgactcac acttctaggc attctcgtt taagggaata attacaatac ccatcccgga  
121 catggaagaa ttcaacggt ttaccgatac ctttcggca acacgggaaa actcaccggg  
181 tccggacacc attaggactg acagattgaa agctctttct cgatttggtg gtggtgggtg  
241 catggccgtt cttagtggg ggagtaccaa tcactag

//

SEQ ID NO: 20

30

LOCUS AF071375 216 bp mRNA EST 30-JUN-1998  
DEFINITION AF071375 mRNA from cadmium-responsive gene Caenorhabditis elegans  
cDNA clone VL5, mRNA sequence.

ACCESSION AF071375

NID g3265120

KEYWORDS EST.

SOURCE Caenorhabditis elegans.

ORGANISM Caenorhabditis elegans

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;

Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.

REFERENCE 1 (bases 1 to 216)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode Caenorhabditis elegans.

Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman

Nicholas School of the Environment

Duke University

Box 90328, Durham, NC 27708-0328, USA

Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..216

/organism="Caenorhabditis elegans"

/strain="N2"

/db\_xref="taxon:6239"

/clone="VL5"

/clone\_lib="mRNA from cadmium-responsive gene"

/tissue\_type="whole animal"

/dev\_stage="mixed population"

BASE COUNT 69 a 37 c 66 g 44 t

ORIGIN

1 tagcaagtgc ggagacaaat ggaatgcag tggagacaag tgtgtgaga agtactgctg  
61 tgaggaggcc agtgagaaaaaatgctgtcc agctggatgt aaggagact gcaagtgtgc  
121 aaactgtcat tgtgcagagc agaagcagtg cgagacaaga cccatcaaca ccagggaact  
181 gctgcggctc attaaatgt ttacagatg aatcta

//

SEQ ID NO: 21

31

LOCUS AF071374 356 bp mRNA EST 30-JUN-1998  
DEFINITION AF071374 mRNA from cadmium-responsive gene Caenorhabditis elegans  
cDNA clone VL9, mRNA sequence.

ACCESSION AF071374

NID g3265119

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 356)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman

Nicholas School of the Environment

Duke University

Box 90328, Durham, NC 27708-0328, USA

Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..356

/organism="Caenorhabditis elegans"

/strain="N2"

/db\_xref="taxon:6239"

/clone="VL9"

/clone\_lib="mRNA from cadmium-responsive gene"

/tissue\_type="whole animal"

/dev\_stage="mixed population"

BASE COUNT 126 a 70 c 55 g 105 t

ORIGIN

1 caatcgatga gtatcctcgt acaattaatg catgatgcaa ttggaaatat tccgaggtag  
61 gtaaacggg gaacatcacg agatagatga atacagcgga tatcatatag gcacgcagaa  
121 tatcaataaa atttcaaat ttcaaaaata tcataacgat tataacacgt agcagggaat  
181 tttaaagcca ctgaaataaa tatagaataa tatatacaga cacacacaat ctgatttca  
241 gaacatttc agtaacgacg ttgaacttt ttgaagatt tcgccgagcc ttgatcact  
301 ttgcagtc caactccac aactttctt tctctctct cctctacatc gatgac

//

SEQ ID NO: 22

LOCUS AF071373 199 bp mRNA EST 30-JUN-1998

DEFINITION AF071373 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone VL3A, mRNA sequence.

ACCESSION AF071373

NID g3265118

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;

Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 199)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

32.

Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES            Location/Qualifiers  
 source            1..199  
                   /organism="Caenorhabditis elegans"  
                   /strain="N2"  
                   /db\_xref="taxon:6239"  
                   /clone="VL3A"  
                   /clone\_lib="mRNA from cadmium-responsive gene"  
                   /tissue\_type="whole animal"  
                   /dev\_stage="mixed population"

BASE COUNT    55 a   31 c   20 g   93 t

ORIGIN

1 taaactctat gtttattgt ttttcaaat ttcaaatga aaattgaaac ttcaattg  
 61 attagagctt ttgtggttg actcctttt ttcatgaac atctttacg tacgtcatac  
 121 tttgtatac acattacaa atgttggtt gtaattatat gtaacaaat tctatgtaca  
 181 cctcatctca tctctctat

//

SEQ. ID NO: 23

33. LOCUS    AF071372   326 bp   mRNA       EST    30-JUN-1998  
 DEFINITION AF071372 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
                   cDNA clone VL21A, mRNA sequence.

ACCESSION AF071372

NID        g3265117

KEYWORDS EST.

SOURCE    *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
 Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 326)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE      Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
 Identification and cloning of new cadmium-responsive genes by  
 differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES            Location/Qualifiers

source            1..326  
                   /organism="Caenorhabditis elegans"  
                   /strain="N2"  
                   /db\_xref="taxon:6239"  
                   /clone="VL21A"  
                   /clone\_lib="mRNA from cadmium-responsive gene"  
                   /tissue\_type="whole animal"  
                   /dev\_stage="mixed population"

BASE COUNT    76 a   61 c   59 g   130 t

ORIGIN

1 cgtctccctt ttacttac tttaggtgc gtcttgtaa ttgtacgtac ttatttag  
61 caaacctctg gtgtacctc tgcctttg taaaattgt tacacactt cttttggca  
121 gtaaaagttg tttagcacac ttaacactc tgcactacc aaggtaatag tgagcccatc  
181 gaggtttat aaatgtcctt gatagttaa agtgttgag gatcgagcta ctttgtagt  
241 ggaaagccgt gttctgtc ttgttgrt cgtgattt cccaactat tgatattg  
301 attaccgga ttataata caccac

//

SEQ ID NO: 24

34

LOCUS AF071371 147 bp mRNA EST 30-JUN-1998  
DEFINITION AF071371 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone VL20B, mRNA sequence.

ACCESSION AF071371

NID g3265116

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 147)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..147  
/organism="Caenorhabditis elegans"  
/strain="N2"  
/db\_xref="taxon:6239"  
/clone="VL20B"  
/clone\_lib="mRNA from cadmium-responsive gene"  
/tissue\_type="whole animal"  
/dev\_stage="mixed population"

BASE COUNT 54 a 27 c 22 g 44 t

ORIGIN

1 ttgcaatata cctagaaga gtaaatatta tgacgtggca ataatacaga agcagtcgga  
61 actacaactc acgaacatt ttgaaagtt acctcttgat tcttttgaa tgtttgtct  
121 cacacaataa agaaaattct accgtac

//

SEQ ID NO: 25

35

LOCUS AF071370 285 bp mRNA EST 30-JUN-1998  
DEFINITION AF071370 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone VL19, mRNA sequence.

ACCESSION AF071370

NID g3265115

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 285)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..285  
/organism="Caenorhabditis elegans"  
/strain="N2"  
/db\_xref="taxon:6239"  
/clone="VL19"  
/clone\_lib="mRNA from cadmium-responsive gene"  
/tissue\_type="whole animal"  
/dev\_stage="mixed population"

BASE COUNT 91 a 46 c 52 g 96 t

ORIGIN

1 cgtggcaata cacagaatat acacattgag atggttcgaa tggcaaagag aaggtggtgg  
61 ctaatcattc tatatagcac aacgccaaat ataattcga tgtggcggaa ttgtgatgg  
121 tgaatggaat taacaaaatt ttctaaacgt ctctattccg agtaatttt cgtttccct  
181 ccacttttcg atttatattg ttctttaga aaaagtattt attgcatcgg gtgctcattg  
241 tcttgtga gaatataaac tcgttcactt cccaaaaaaa aaaaa

//

SEQ ID NO: 26

36.

LOCUS AF071369 216 bp mRNA EST 30-JUN-1998

DEFINITION AF071369 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone VL13, mRNA sequence.

ACCESSION AF071369

NID g3265114

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 216)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA

Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..216  
 /organism="Caenorhabditis elegans"  
 /strain="N2"  
 /db\_xref="taxon:6239"  
 /clone="VL13"  
 /clone\_lib="mRNA from cadmium-responsive gene"  
 /tissue\_type="whole animal"  
 /dev\_stage="mixed population"

BASE COUNT 69 a 37 c 66 g 44 t

ORIGIN

1 tagcaagtcg gagacaaatg tgaatgcagt ggagacaagt gttgtgagaa gtactgctgt  
 61 gaggaggcca gtgagaaaaa atgctgtcca gctggatgta agggagactg caagtgtgca  
 121 aactgtcatt gtgcagagca gaagcagtcg ggagacaaga cccatcaaca ccagggaact  
 181 gctcgggctc attaaaatgt tcagagttg aatcta

//

SEQ ID NO: 27

LOCUS AF071368 142 bp mRNA EST 30-JUN-1998

DEFINITION AF071368 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone VL11, mRNA sequence.

ACCESSION AF071368

NID g3265113

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
 Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 142)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
 Identification and cloning of new cadmium-responsive genes by  
 differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..142  
 /organism="Caenorhabditis elegans"  
 /strain="N2"  
 /db\_xref="taxon:6239"  
 /clone="VL11"  
 /clone\_lib="mRNA from cadmium-responsive gene"  
 /tissue\_type="whole animal"  
 /dev\_stage="mixed population"

BASE COUNT 45 a 21 c 23 g 53 t

ORIGIN

1 gtgctggagt tgggtgatt tcagaataaa taaataaaa tatgattga gtagaatatt  
 61 aaaaataaagt ccttcacatt aaattatcaa tgcctggcc tcgaatatct tccagctggt  
 121 gattgcattc gtcattcct tc

SEQ ID NO: 28

37.

//

LOCUS AF071367 84 bp mRNA EST 30-JUN-1998  
 DEFINITION AF071367 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone VL10. mRNA sequence.  
 ACCESSION AF071367  
 NID g3265112  
 KEYWORDS EST.  
 SOURCE *Caenorhabditis elegans*.  
 ORGANISM *Caenorhabditis elegans*  
 Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
 Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.  
 REFERENCE 1 (bases 1 to 84)  
 AUTHORS Freedman, J.H. and Liao, H.-C.  
 TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
 Identification and cloning of new cadmium-responsive genes by  
 differential display  
 JOURNAL Unpublished (1998)  
 COMMENT  
 Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES Location/Qualifiers  
 source 1..84  
 /organism="Caenorhabditis elegans"  
 /strain="N2"  
 /db\_xref="taxon:6239"  
 /clone="VL10"  
 /clone\_lib="mRNA from cadmium-responsive gene"  
 /tissue\_type="whole animal"  
 /dev\_stage="mixed population"

BASE COUNT 29 a 10 c 27 g 18 t

ORIGIN

1 tagcaagtgc ggagacaaat gtgaatgcag tggagacaag tgtgtgaga agtactgctg  
 61 tgaggattcc agtgagaaaa aatc

//

SEQ ID NO: 29

39. LOCUS AF071366 217 bp mRNA EST 30-JUN-1998  
 DEFINITION AF071366 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone VL1, mRNA sequence.  
 ACCESSION AF071366  
 NID g3265111  
 KEYWORDS EST.  
 SOURCE *Caenorhabditis elegans*.  
 ORGANISM *Caenorhabditis elegans*  
 Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
 Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.  
 REFERENCE 1 (bases 1 to 217)  
 AUTHORS Freedman, J.H. and Liao, H.-C.  
 TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
 Identification and cloning of new cadmium-responsive genes by  
 differential display



JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..217  
/organism="Caenorhabditis elegans"  
/strain="N2"  
/db\_xref="taxon:6239"  
/clone="VL1"  
/clone\_lib="mRNA from cadmium-responsive gene"  
/tissue\_type="whole animal"  
/dev\_stage="mixed population"

BASE COUNT 69 a 37 c 67 g 44 t

ORIGIN

1 tagcaagtgc ggagacaaat gtgaatgcag tggagacaag tgtgtgaga agtactgctg  
61 tgaggaggcc agtgagaaaa aatgctgtcc agctggatgt aaggagact gcaagtgtgc  
121 aaactgtcat tgtgcagagc agaagcagtg cggagacaag acccatcaac accagggaac  
181 tgctgcggct cattaaaaat ttccagagtt gaatcta

//

SEQ ID NO: 30

40.

LOCUS AF071365 292 bp mRNA EST 30-JUN-1998

DEFINITION AF071365 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone DDRT22. mRNA sequence.

ACCESSION AF071365

NID g3265110

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 292)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..292  
/organism="Caenorhabditis elegans"  
/strain="N2"  
/db\_xref="taxon:6239"  
/clone="DDRT22"  
/clone\_lib="mRNA from cadmium-responsive gene"  
/tissue\_type="whole animal"

/dev\_stage="mixed population"  
 BASE COUNT 101 a 60 c 50 g 81 t  
 ORIGIN

1 tggctactcca cacggacaaa tacatttagt ttacaagcc gccacgcgac acgcaacgcc  
 61 gtaaatctac caaggtacaa caacaacatg tcaagcacag acccatatct tarrtgtgcg  
 121 gaacgagatg gcctctactg tagtaatcga caattggact ctatccacc ggarcactta  
 181 acctatttg atattaatat tcctattggg atcacagggt ttgcccgaag atgtaattat  
 241 gaactgaatt gaaatgtatt ataaattagt ttatttggg aaaaaaaaaa aa

//

SEQ ID NO: 31

41 LOCUS AF071364 188 bp mRNA EST 30-JUN-1998  
 DEFINITION AF071364 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone DDRT21D, mRNA sequence.

ACCESSION AF071364

NID g3265109

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;

Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 188)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
 Identification and cloning of new cadmium-responsive genes by  
 differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman

Nicholas School of the Environment

Duke University

Box 90328, Durham, NC 27708-0328, USA

Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..188

/organism="Caenorhabditis elegans"

/strain="N2"

/db\_xref="taxon:6239"

/clone="DDRT21D"

/clone\_lib="mRNA from cadmium-responsive gene"

/tissue\_type="whole animal"

/dev\_stage="mixed population"

BASE COUNT 44 a 31 c 51 g 62 t

ORIGIN

1 tatagggttaa gtgatccggt ggataagagt ccaattgtcg attactacag tagaggccat  
 61 ctgctccgc acaataaga tatgggtctg tgcttgacat gttgtgttg taccttgggt  
 121 agattacgg cagntgcgtg tcgttggcgg ctgtgaaac taaatgtatt ttccgtgtg  
 181 gattacca

//

SEQ ID NO: 32

42. LOCUS AF071363 289 bp mRNA EST 30-JUN-1998  
 DEFINITION AF071363 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone DDRT20, mRNA sequence.

ACCESSION AF071363

NID g3265108

## KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.ORGANISM *Caenorhabditis elegans*Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 289)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
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## COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

## FEATURES Location/Qualifiers

source 1..289  
/organism="Caenorhabditis elegans"  
/strain="N2"  
/db\_xref="taxon:6239"  
/clone="DDRT20"  
/clone\_lib="mRNA from cadmium-responsive gene"  
/tissue\_type="whole animal"  
/dev\_stage="mixed population"

BASE COUNT 63 a 56 c 75 g 95 t

## ORIGIN

1 tttttttt ttgtacat tatggcaaar ggaggcactg tctggttcgg tggggtcatg  
61 gtgcattgga tcatggtata tcctatcctg gcttctaate ccaatgcgtt tacagtcacg  
121 tgggcttgaa cgggccttagc tgagcttgga caaagttcct tgacagtacg ggtcgacaag  
181 ctgacagtc agaaattagg cactgtggg ctacaggtgc tcgtaattat ttgagagtt  
241 ctgggcttcc ggactttac taggctaate taagacaact gggctctaa

//

SEQ ID NO: 33

LOCUS AF071362 214 bp mRNA EST 30-JUN-1998

DEFINITION AF071362 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone DDRT2, mRNA sequence.

ACCESSION AF071362

NID g3265107

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.ORGANISM *Caenorhabditis elegans*Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 214)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

## COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment

43

Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..214  
/organism="Caenorhabditis elegans"  
/strain="N2"  
/db\_xref="taxon:6239"  
/clone="DDRT2"  
/clone\_lib="mRNA from cadmium-responsive gene"  
/tissue\_type="whole animal"  
/dev\_stage="mixed population"

BASE COUNT 77 a 37 c 40 g 60 t

ORIGIN

1 aaatcatggc ggcggatgca acagttctct caattggcaa ctgtctatat cattccgcaa  
61 cacatttcgg atgtctcga aaaggacttc ccaaaagttat tggagtactg tgaaagagtt  
121 cgtcatgaag mtcccaaag gactttacta tgtgaattaa atgtcaaac tagtagtcag  
181 atcaataaaa tttagctgg aaaaaaaaaa aaaa

//

SEQ ID NO: 34

44.

LOCUS AF071361 322 bp mRNA EST 30-JUN-1998

DEFINITION AF071361 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone DDRT19, mRNA sequence.

ACCESSION AF071361

NID g3265106

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 322)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
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JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..322  
/organism="Caenorhabditis elegans"  
/strain="N2"  
/db\_xref="taxon:6239"  
/clone="DDRT19"  
/clone\_lib="mRNA from cadmium-responsive gene"  
/tissue\_type="whole animal"  
/dev\_stage="mixed population"

BASE COUNT 102 a 77 c 70 g 73 t

ORIGIN

1 taggtgaccg tagagaagcc cagatatta aaatctaaag ggaaactgtt tgaccagaag

SEQ ID NO: 35

61 attagagccc agttgtctta gatagcctag taaaagtccg gaagcccaga actctcaaaa  
 121 taattacgag cacctgtagc ccacaagtgc ctaatttctg actgtcaagc ttgtcgaccc  
 181 gtactgtcaa ggaactttgt caagctcagc taggcccgtt caagcccaca tgactgtaaa  
 241 cgattcggga ttgaagcca ggataggata tccatgatcc aatgcacat gaccacgga  
 301 accagatgtg ctattacat ag

//

45 LOCUS AF071360 228 bp mRNA EST 30-JUN-1998  
 DEFINITION AF071360 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone DDRT18, mRNA sequence.

ACCESSION AF071360

NID g3265105

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
 Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 228)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
 Identification and cloning of new cadmium-responsive genes by  
 differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..228  
 /organism="Caenorhabditis elegans"  
 /strain="N2"  
 /db\_xref="taxon:6239"  
 /clone="DDRT18"  
 /clone\_lib="mRNA from cadmium-responsive gene"  
 /tissue\_type="whole animal"  
 /dev\_stage="mixed population"

BASE COUNT 70 a 49 c 20 g 89 t

ORIGIN

1 tttttttt ttcccaatt catcacacac tatcargtt tatattcaga cctattacct  
 61 gtccagaaaa actgagctga aaaaatcccg gacgagcagc tccttcacat tcaaaatctt  
 121 ccatcatc cccactcaat tcattgttt tgccttgat ttcaaaatt ttgccttat  
 181 tatttatg ctaaaattaag aaaactgtta cttgcacaaa aaaaaaaa

//

SEQ ID NO: 36

46 LOCUS AF071359 255 bp mRNA EST 30-JUN-1998  
 DEFINITION AF071359 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone DDRT1, mRNA sequence.

ACCESSION AF071359

NID g3265104

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.

REFERENCE 1 (bases 1 to 255)

AUTHORS Freedman,J.H. and Liao,H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
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COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..255  
/organism="Caenorhabditis elegans"  
/strain="N2"  
/db\_xref="taxon:6239"  
/clone="DDRT1"  
/clone\_lib="mRNA from cadmium-responsive gene"  
/tissue\_type="whole animal"  
/dev\_stage="mixed population"

BASE COUNT 113 a 25 c 51 g 66 t

ORIGIN

1 atcatcaag aaagctatta tcagaaaaca taaatgacat agatcaagtg taaatcacat  
61 atataaaag tggataaata tatatagtta aacggataag gaaattaatt aatgaattt  
121 gaaactggca gcgaaggatg aacagggaaa ggcacatgtt aaaataaatg aatgtgtata  
181 atttcgtgaa gagttagtta tgttagggtg tggcagccat gcagaatgag ccattgttcc  
241 gaaaaaaaaa aaaaa

//

SEQ ID NO: 37

47. LOCUS AF071358 433 bp mRNA EST 30-JUN-1998

DEFINITION AF071358 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
cDNA clone DDRT17, mRNA sequence.

ACCESSION AF071358

NID g3265103

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 433)

AUTHORS Freedman,J.H. and Liao,H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
Identification and cloning of new cadmium-responsive genes by  
differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
Nicholas School of the Environment  
Duke University  
Box 90328, Durham, NC 27708-0328, USA  
Email: jonf@duke.edu.

FEATURES            Location/Qualifiers  
 source            1..433  
                   /organism="Caenorhabditis elegans"  
                   /strain="N2"  
                   /db\_xref="taxon:6239"  
                   /clone="DDRT17"  
                   /clone\_lib="mRNA from cadmium-responsive gene"  
                   /tissue\_type="whole animal"  
                   /dev\_stage="mixed population"

BASE COUNT    149 a   63 c   83 g   138 t

ORIGIN

1 tggactaag ggccaataac tgagctttg cacggcggca tcaatgataa agagaaacta  
 61 ttttgacgg ttaaataac caaattaca ccggcgagtc aatcaaaaat tctcatctgg  
 121 aacagcaaag tacatcgag aattgctgga aggaagcact gatgaaacta aattaactgc  
 181 tggatgcata ggaaaaacgt caagattgac gtggagtgg agagaaggac tatgttga  
 241 tggttactaa gatgtgtaa ctggtgacaa taaggacatc actttctaa ctaactaaa  
 301 tcttttta cttcttct tctgaataa ttgtgttta aggcgaattc tatgttcag  
 361 aattatta cgttgcmt tcatgtta attgtaaag taagcaattt tccaccga  
 421 aaaaaaaaaaaa aaa

//

SEQ ID NO: 38

LOCUS    AF071357   933 bp   mRNA        EST    30-JUN-1998  
 DEFINITION AF071357 mRNA from cadmium-responsive gene Caenorhabditis elegans  
                   cDNA clone DDRT16FC. mRNA sequence.

ACCESSION AF071357

NID        g3265102

KEYWORDS EST.

SOURCE    Caenorhabditis elegans.

ORGANISM Caenorhabditis elegans

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
 Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.

REFERENCE 1 (bases 1 to 933)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE    Cadmium-Regulated Genes from the Nematode Caenorhabditis elegans.  
 Identification and cloning of new cadmium-responsive genes by  
 differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES            Location/Qualifiers

source            1..933  
                   /organism="Caenorhabditis elegans"  
                   /strain="N2"  
                   /db\_xref="taxon:6239"  
                   /clone="DDRT16FC"  
                   /clone\_lib="mRNA from cadmium-responsive gene"  
                   /tissue\_type="whole animal"  
                   /dev\_stage="mixed population"

BASE COUNT    275 a   190 c   171 g   297 t

ORIGIN

1 catgcatctt tttttt tttttt ctgtctcaag tatgttgat tcatgttga  
 61 ttattactgc tgcgtggtt ggagccgctg tcatttactt gaaaaatttc ttactgttc  
 121 ctgacattaa accaaaacct gatattcaca aaaaagacta caaaaaggat gtagttatc  
 181 tgtatcagat gaagagactc aagaactgtc cgaactgtc cctttctgc atgaaaatc  
 241 agattcttg tagaatctc aagattctt acgagattat cacatgcacc tctgaacgt  
 301 ctgggaatgg atgtgtccct ttcttgaac tcaatggaga gcacatgtc gattctgac  
 361 ttatcgaat gcgttgaga tcacattt aaattccgtc gtttccaact gagctggaa  
 421 ctcaatctgt tctctaaagc aagttgcag atcaccattt gtttctgta ctatagat  
 481 ttaaaattgc tctgcagaa ttctacaaa ccattatcga aataatcggc ctcccaact  
 541 tcttgaatt ccttctatg ccccttga aggctataat cgggaaaaat gtttaca  
 601 aatgtcaggg agccattga gattgaat tgagtgtgct cgacgagatt ctacacagag  
 661 atttgcgaat cgtagagaac accttgcca agaaaaagt tctttcggg gaggaatca  
 721 cggcggcgga tgcaacagtc ttcttcaat tggcaactgt ctattatcca ttccgaatc  
 781 acattcggga ttttctgaa aaggacttcc caaagtattt ggagtactgt gaaagagtc  
 841 gtcatgaagt ttacccaaag gactttacta tgtgaattaa attgtcaaac tagtagicag  
 901 atcaataaaa ttctacgtgg caaaaaaaaa aaa

SEQ ID NO: 39

//

49. LOCUS AF071356 238 bp mRNA EST 30-JUN-1998  
 DEFINITION AF071356 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone DDRT16. mRNA sequence.

ACCESSION AF071356

NID g3265101

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;

Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 238)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.

Identification and cloning of new cadmium-responsive genes by  
 differential display

JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman

Nicholas School of the Environment

Duke University

Box 90328, Durham, NC 27708-0328, USA

Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..238

/organism="Caenorhabditis elegans"

/strain="N2"

/db\_xref="taxon:6239"

/clone="DDRT16"

/clone\_lib="mRNA from cadmium-responsive gene"

/tissue\_type="whole animal"

/dev\_stage="mixed population"

BASE COUNT 77 a 42 c 45 g 74 t

ORIGIN

1 tttttt ttgggagga aatcacggcg gcggatgcaa cagttctc tcaattggca  
 61 actgtctatt atccattccg caatcacatt tggatgttc tggaaaagga ctcccaag  
 121 ttattggagt actgtgaaag agttcgtcat gaagttacc caaaggactt tactatgga

SEQ ID NO: 40



181 attaaatgt caaactagta gtcagatcaa taaaattcta cgtggcaaaa aaaaaaaa

//

50. LOCUS AF071355 248 bp mRNA EST 30-JUN-1998  
 DEFINITION AF071355 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone DDRT15, mRNA sequence.  
 ACCESSION AF071355  
 NID g3265100  
 KEYWORDS EST.  
 SOURCE *Caenorhabditis elegans*.  
 ORGANISM *Caenorhabditis elegans*  
 Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
 Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.  
 REFERENCE 1 (bases 1 to 248)  
 AUTHORS Freedman, J.H. and Liao, H.-C.  
 TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
 Identification and cloning of new cadmium-responsive genes by  
 differential display  
 JOURNAL Unpublished (1998)  
 COMMENT

Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES Location/Qualifiers  
 source 1..248  
 /organism="Caenorhabditis elegans"  
 /strain="N2"  
 /db\_xref="taxon:6239"  
 /clone="DDRT15"  
 /clone\_lib="mRNA from cadmium-responsive gene"  
 /tissue\_type="whole animal"  
 /dev\_stage="mixed population"

BASE COUNT 67 a 46 c 31 g 104 t

ORIGIN

1 ttttttt ttgcgatgt tgtaatacta atatttata atttttta attttctg  
 61 ttaagttgt atttataggt tttgagatt ttttgccgtg taatttgca actgtgattc  
 121 atgtatgtac tatatgaacc gaaacccct cccgtcatac acaacagta gtaaacatt  
 181 ttaatcccat attttcatt cccaacactc ttacaggmt tgcatacagca gcagcagtc  
 241 aaacacaa

//

51. LOCUS AF071354 226 bp mRNA EST 30-JUN-1998  
 DEFINITION AF071354 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone DDRT12, mRNA sequence.  
 ACCESSION AF071354  
 NID g3265099  
 KEYWORDS EST.  
 SOURCE *Caenorhabditis elegans*.  
 ORGANISM *Caenorhabditis elegans*  
 Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
 Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.  
 REFERENCE 1 (bases 1 to 226)

SEQ ID NO: 41

AUTHORS Freedman, J.H. and Liao, H.-C.  
 TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
 Identification and cloning of new cadmium-responsive genes by  
 differential display

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COMMENT

Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..226  
 /organism="Caenorhabditis elegans"  
 /strain="N2"  
 /db\_xref="taxon:6239"  
 /clone="DDRT12"  
 /clone\_lib="mRNA from cadmium-responsive gene"  
 /tissue\_type="whole animal"  
 /dev\_stage="mixed population"

BASE COUNT 68 a 38 c 35 g 85 t

ORIGIN

1 tttttttt ttgttaaca aagaactgag cactctatgg ttaacaagt cratatgtat  
 61 ccgtgatgcc tactgtatcg tacatccatc tcgatcgtaa tgcattatg atcatgagtt  
 121 cccaaaggtc ttaatctga caaagggtga atagatatat atccttatt ggcactatar  
 181 atatgttcag aattatgact gatcgatata targatcaaa gttaca

//

SEQ ID NO: 42

LOCUS AF071353 212 bp mRNA EST 30-JUN-1998  
 DEFINITION AF071353 mRNA from cadmium-responsive gene *Caenorhabditis elegans*  
 cDNA clone DDRT10. mRNA sequence.

ACCESSION AF071353

NID g3265098

KEYWORDS EST.

SOURCE *Caenorhabditis elegans*.

ORGANISM *Caenorhabditis elegans*

Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;  
 Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; *Caenorhabditis*.

REFERENCE 1 (bases 1 to 212)

AUTHORS Freedman, J.H. and Liao, H.-C.

TITLE Cadmium-Regulated Genes from the Nematode *Caenorhabditis elegans*.  
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JOURNAL Unpublished (1998)

COMMENT

Contact: Jonathan H. Freedman  
 Nicholas School of the Environment  
 Duke University  
 Box 90328, Durham, NC 27708-0328, USA  
 Email: jonf@duke.edu.

FEATURES Location/Qualifiers

source 1..212  
 /organism="Caenorhabditis elegans"  
 /strain="N2"

7

/db\_xref="taxon:6239"

/clone="DDRT10"

/clone\_lib="mRNA from cadmium-responsive gene"

/tissue\_type="whole animal"

/dev\_stage="mixed population"

BASE COUNT 68 a 35 c 34 g 75 t

ORIGIN

1 ttgatacag gaactacatt tacatctgtt tcaacatata aacaatacat aacatactca  
61 atccttcagg ctctgaagga ttgtgagtc gatatactgt aacaagctcg ggaaacataa  
121 gtacatttt tggagctatc ttttatgtt gcgctttct ttgtctctt tgaatgagtt  
181 ttgaaatgaa ttgtctgtgc aaaaaaaaaa aa

//

SEQ ID NO: 43